



Successful Treatment and Management of Uterine Prolapse in Ongole Cattle- A Case Report

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ABSTRACT

Uterine prolapse is a major obstetrical problem, which affects reproductive and productive performance of cattle by delaying the postpartum return to estrus, conception rate and calving interval. A case of such post-partum total uterine prolapse in an ongole cattle associated with inflamed caruncles was presented and the prolapsed mass was successfully reduced, repositioned, and application of retention which was achieved by rope truss after proper epidural anesthesia with 2% lignocaine. Hypocalcemia which was the major cause of the present uterine prolapse was corrected by giving intravenous calcium therapy (450 ml; I/V) and managed further by oral route. Animal was well handled during treatment and utmost care was taken in such a way that its future production and fertility was not hindered. The cow was successfully recovered from the prolapse without any complications.

Key Words: Cattle, Uterine prolapse, Pluriparous, Treatment, Reposition, Retention.

INTRODUCTION

Uterine prolapses occur *after calving* when the uterus inverts itself through the cervix and the vagina out of the cow. Post-partum prolapse of uterus is an obstetrical complication that occurs 48 to 72 hours after parturition. It usually occurs in third stage of labor in the cow (Joseph *et al*, 2001). Bovine uterine prolapse is a sporadic but life-threatening postpartum condition. Spontaneous uterine prolapse in cows is an occasionally encountered post parturient complication requiring immediate attention. Uterine prolapse should be regarded as a condition which requires emergency treatment. Without timely intervention the prognosis for life is grave (Miesener and Anderson, 2008). It is most common in dairy cattle and can occur in beef cows occasionally with hypocalcemia. Animals suffering from uterine prolapse either remain in sternal or in lateral recumbency. The incidence of the condition has been reported to be between 0.002 and 1% of calvings (Carluccio *et al*, 2020). The proposed mechanism for its development is decreased myometrial tone combined with an open cervix – which explains why hypocalcaemia, and dystocia (which can result in myometrial fatigue), are risk factors for the condition (Murphy *et al*, 2002). Forced extraction of the calf and

dystocia have been incriminated as causes of uterine prolapse in dairy (Hopper, 2007; Noakes *et al*, 2001a) and beef cattle. The ruminants are predisposed to post-partum uterine prolapse due to the long myometrium contractions, violent straining, low plane of nutrition, hypocalcaemia, relaxed atonic flaccid uterus, lack of exercise and extreme laxity of perineum and vulvar lips etc. (Kumbhar *et al*, 2009). The lower calcium, lower phosphorus and higher magnesium serum concentration were also observed in animals suffering from uterine prolapse (Ahmed *et al.*, 2005; Akhtar *et al.*, 2008).

Case History and Observation

A pluriparous cow aged 7yrs in its third parity was presented to the Veterinary Clinical complex, College of Veterinary Science, Garividi with a history of uterine prolapse (Fig 1) after 48 hrs of calving. All the physiological parameters like temperature (101°C), pulse rate (50 beats per minute), respiration (30 breaths per minute) were within the normal range. The cow expressed severe tenesmus and the prolapsed mass was soiled with dirt, straw and dung. The prolapsed mass was swollen, edematous, necrotic especially at the caruncular area. Blood and serum were collected for

examination. Haematological (Hb-11g/dl; PCV-25%) and Biochemical parameters (BUN-15mg/dl; Creatinine-1mg/dl; Glucose-65mg/dl) were normal except hypocalcemia (7.5mg/dl) was noticed. The case was diagnosed as total uterine prolapse (Fig 1) and the treatment was indicated.

Treatment and Discussion

Initially, animal's straining was reduced and provided satisfactory regional analgesia by injecting 2% Lignocaine (6 ml) epidurally at the Sacro-coccygeal space. After that, the prolapsed mass was cleaned with antiseptic solution such as potassium permanganate to remove all the dirt, and dung. The three main principles indicated in the treatment of current prolapsed mass was reduction, replacement/reposition and retention. Firstly, the swollen prolapsed mass was reduced by applying pop in spray and placental attachments were removed without excessive bleeding and trauma. After 10-15mins, the mass was replaced in its normal place by elevating the mass to the level of the ischium; this enables easier reduction and helps relieve vascular compromise and retention of urine. The prolapsed mass was replaced by applying pressure with the fist of the hand on the mass until it was kept in its original location. Once the uterus is replaced, a hand was inserted to the tip of both uterine horns to ensure there was no remaining invagination that could incite abdominal straining and another prolapse. Retention was achieved by application of rope truss extending from the neck to vulval lips of the animal (Fig 2). After proper retention, the animal was administered with Inj Melonex (15ml; I/M), Inj Ceftriaxone (4gm; I/V), Inj Dextrose Normal saline (3 liters; I/V), Inj Tribivet (15ml; I/V) and Inj Calcium boro gluconate (450ml; slow I/V) and advised to continue the antibiotic, analgesic and oral calcium therapy for 5 days. The farmer was advised to elevate the cow's hind quarters to prevent the recurrence of the prolapse as per Blate (2023). An uneventful recovery was noticed. The prolapse of the uterus is seen most commonly in pluriparous dairy cows which was seen in the present case. The usual sequelae of uterine prolapse is hemorrhage, shock and infertility. However careful removal of dung and dirt by potassium permanganate solution prevented the uterine infection in this case which was also noticed by Simon *et al.* (2015). To

retain the prolapsed mass after proper reduction, various through and through trans vulvar suturing techniques have been tried (Noakes *et al*, 2001b; Roberts, 2004; Anonymous, 2006; Bhattacharyya *et al*, 2007), but they are prone to tear the vulva particularly in cases showing subsequent violent straining (Noakes *et al*, 2001b). Therefore, in this case, rope truss was applied instead of vulvar sutures with least damage. Hypocalcemia results in atony of the uterus and a delay in cervical involution, both of which could predispose to uterine prolapse in dairy cows which was majorly observed in this case. Therefore, Calcium borogluconate therapy is recommended, along with a course of parental antibiotic which was in agreement to Noakes *et al* (2001a) because hypocalcemia is the main reason for uterine prolapse. In the current case, immediate and proper treatment of this condition not only saved the life of the cow but also its future fertility as the most common sequelae of uterine prolapse is establishment of septic metritis and endometritis.

CONCLUSION

In uterine prolapse, tension is placed on the large uterine vessels. This tension on the vessels puts the cow at risk of rupturing, which can cause the animal to go into hypovolemic shock and bleed out internally and therefore it is every time regarded as an emergency case. It was concluded from the present case that the uterine prolapse can be treated by following 3 main principles such as reduction, reposition/replacement and retention by rope truss method along with fluid and calcium therapy. In this case, the reason for the prolapse was majorly attributed to hypocalcemia. Successful treatment in the current case was achieved with 100% recovery of the dam.

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